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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/600,654	10/02/2000	Michael James Knee	87805-9010	9007

7590

03/07/2003

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EXAMINER

VO, TUNG T

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 03/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/600,651

Applicant(s)

ANDREE ET AL.

Examiner

Tung T. Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: .

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 10/05/01 has been considered by the examiner.

Specification

3. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.

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- (1) Field of the Invention.
- (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

4. The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

Claim Objections

5. Claims 1, 8, 10 are objected to because of the following informalities:

Claim 1, line 1, "analysing" should be changed to "analyzing";

Claim 8, line 2, between "decisions" and "taken", insert --"are"--;

Claim 10, line 3 "an compressed" should be changed to "a compressed".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7, line 3, “the selected bit rate” fails to provide antecedent basis because the selection of the bit rate is not previously disclosed in claim 7. Since “the selected bit rate” does not provide antecedent basis, “the maintenance” also fails to provide antecedent basis in claim 7. Therefore, “the maintenance of the selected bit rate” as recited in claim 7 renders the claim indefinite.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C.

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122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

9. Claims 1-5 and 7-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Knee et al. (US 6,285,716).

Re claims 1 and 9, Knee discloses a compression pre-processing apparatus having a video signal process (figs. 1 and 9), wherein the apparatus comprising:

means for carrying out the step of analyzing a video signal and taking compression coding decisions (10 of fig. 1, the pre-processor (10) performs the functions of motion compensation to produce a picture (video) signal P and an information bus IB, wherein the information bus can be used as an internal path for coding decisions, see also col. 4, lines 29-31, 40-41);

means for carrying out the step of processing the coding decisions (12 of fig. 1, the compression coder (12) encodes or processes the coding decisions IB and the picture signal P to produce a compressed picture signal (compressed bit-stream), see also col. 4, lines 39-45);

means for carrying out the step of outputting the processed coding decisions for passage with the video signal along a video pathway (12 of fig. 1, the coder (12) encodes or processes the coding decisions IB and then outputs the processed coding decision CP along the video pathway, see col. 4, lines 46-48).

Knee further discloses the step of forming a presentation of the coding decisions for passage with video signal along a video pathway (10 of fig. 1; e.g. the pre-processor (10) forms the information bus IB that carries out the coding decisions being sent to the compression coder (12 of fig. 1) with the picture signal P; the coding decisions (IB) further passes through the

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partial decoder (14 of fig. 1) and the information bus processor (16 of fig. 1)); and downstream of the video pathway compression encoding the video signal in accordance with said coding decision (12 of fig. 1, the coder (12) capably encodes the picture signal with the information bus to produce the compressed picture signal with the coding decisions (CP of fig. 1), and the compressed picture CP passes (downstream) through the path between coder (12 of fig. 1) and decoder (14 of fig. 1), see also col. 4, lines 46-48).

Re claim 2, Knee further discloses wherein said representation of the coding decision comprises an information bus in which the coding decisions are represented in the same format as they are represented in the compressed bit-stream (IB of fig. 1, the information bus IB carries out the coding decisions that are represented in the compressed bit-stream CP have the same format as in the information bus IB) which is the output of said downstream compression coding operation (IB, CP of fig. 1, the compressed picture signal CP passages throughout the path to the decoder (14 of fig. 1), and the information bus IB used for further decoding (24 fig. 1) and encoding (28 of fig. 1) called downstream compression coding, see also col. 4, lines 46-48).

Re claim 3, Knee further discloses wherein analysis generates information relating the picture size and type (col. 1, lines 8-15; col. 6, lines 53-55; col. 7, lines 5, 19-21; the MPEG-2 stream consists of group of picture GOPs, the GOP consists of I, P, and B frames, and the I, P, and B frames comprises horizontal and vertical sizes).

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Re claim 4, Knee further discloses wherein analysis comprises the generation of candidate of a motion vector (col. 6, lines 8-10; col. 7, lines 28, 32, the information bus carries out the candidate motion vectors that are generated by the pre-processor (10 of fig. 1)).

Re claim 5, Knee further discloses wherein analysis comprises the selection for each macro-block of the picture of a motion vector from said candidate motion vectors (col. 5, lines 40-51; wherein the motion estimator in coder (12 of fig. 1, and 28 of fig. 1) estimates a motion vector based upon the possible candidate locations in the search window are used to find the best match, so this can produce the best motion vectors for the selection).

Re claim 7, Knee further discloses wherein said analysis includes a bit rate control (col. 4, lines 40-42), and includes the taking of quantizer decisions appropriate to the maintenance of the selected bit rate (904 and 905 of fig. 9, the quantization unit (904) is under control of microprocessor (905) to take the quantization levels appropriate to the desired output bit rate, see also col. 9, lines 28-36).

Re claim 8, Knee further discloses wherein plural bit rates are selected (col. 5, lines 3-5; e.g. the information bus processor includes the intelligent switcher that takes (selects) information about the instantaneous bit rates) and plural quantizer decisions are taken (col. 9, lines 27-39; quantization levels are selected by the microprocessor (905 of fig. 9)).

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Re claim 10, Knee further discloses wherein said means for processing the coding decisions (INFORMATION BUS) provides a representation of the coding decisions in the form of a compressed video bit-stream lacking transform coefficients (908 of fig. 9, the information bus inserter (908) outputs the information bus that carries out the coding decisions without any transform coefficients).

Re claim 11, Knee further disclose wherein said means for outputting processed coding decisions serves to modulate one or more least significant bits of video signal (905, 906 of fig. 9, e.g. the information bus and coefficients can be combined to produce one or more least significant bits of the video signal using technique of MPEG-2 (see col. 9, lines 39-41); and particularly an enhancement layer contains the least significant digits (bits) of the video signal, see also col. 3, lines 8 and 9).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Knee et al. (US 6,285,716) as applied to claims 1, 4, and 5, and further in view of Chan et al. (US 5,812,197)

Re claim 6, Knee further suggests the coding decisions are coding mode selection and control rate that would be used in the encoder to encode the information bus and the picture

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signal (col. 4, lines 40-42), but Knee does not particularly teach the selection of a macro-block prediction mode as claimed.

However, Chan teaches the selection of a macro-block prediction mode (97 of fig. 6, the selector (97) selects the candidate predictions based on selection information provided by processor (32 of fig. 6)). Therefore, taking the combined teachings of Knee and Chan as a whole it would have been obvious to one of ordinary skill in the art to implement the selection of a macro-block prediction mode (97 of fig. 6) of Chan into the compression re-processing apparatus (10, 12 of fig. 1 and fig. 9) of Knee for the same purpose of selecting the best prediction for encoding process as suggested by Chan (C, BEST PREDICTION, of fig. 4). Doing so would allow the motion compensation to improve the selection of compressed pixel blocks from a plurality of compressed blocks and improve prediction mode selection in more complex cases as suggested by Chan (col. 2, lines 38-40, col. 3, lines 18-24).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Knee et al. (US 2001/0021009A1) discloses a video compression.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung T. Vo whose telephone number is (703) 308-5874. The examiner can normally be reached on 6:30 AM - 3:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris. Kelley can be reached on (703) 305-4856. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.


TUNG T. VO
EXAMINER

Tung T. Vo
Examiner
Art Unit 2613

T.Vo
February 25, 2003